

with pores enough in the Air to transmit the greater part of it, and at another degree of obliquity should meet with nothing but parts to reflect it wholly, especially considering that in its passage out of Air into Glass, how oblique soever be its incidence, it finds pores enough in the Glass to transmit the greatest part of it. If any Man suppose that it is not reflected by the Air, but by the outmost superficial parts of the Glass, there is still the same difficulty: Besides, that such a Supposition is unintelligible, and will also appear to be false by applying Water behind some part of the Glass instead of Air. For so in a convenient obliquity of the rays suppose of 45 or 46 degrees, at which they are all reflected where the Air is adjacent to the Glass, they shall be in great measure transmitted where the Water is adjacent to it; which argues, that their reflexion or transmission depends on the constitution of the Air and Water behind the Glass, and not on the striking off the rays upon the parts of the Glass. Thirdly, If the Colours made by a Prism placed at the entrance of a beam of Light into a darkened room be successively cast on a second Prism placed at a greater distance from the former, in such manner that they are all alike incident upon it, the second Prism may be so inclined to the incident rays, that those which are of a blue Colour shall be all reflected by it, and yet those of a red Colour pretty copiously transmitted. Now if the reflexion be caused by the parts of Air or Glass, I would ask, why at the same obliquity of incidence the blue should wholly impinge on those parts so as to be all reflected, and yet the red find pores enough to be in great measure transmitted. Fourthly, where two Glasses touch one another,

another, there is no sensible reflexion as was declared in the first Observation; and yet I see no reason why the rays should not impinge on the parts of Glass as much when contiguous to other Glass as when contiguous to Air. Fifthly, When the top of a Water-bubble (in the 17th Observation) by the continual subsiding and exhaling of the Water grew very thin, there was such a little and almost insensible quantity of Light reflected from it, that it appeared intently black; whereas round about that black Spot, where the Water was thicker, the reflexion was so strong as to make the Water seem very white. Nor is it only at the least thickness of thin Plates or Bubbles, that there is no manifest reflexion, but at many other thicknesses continually greater and greater. For in the 15th Observation the rays of the same Colour were by turns transmitted at one thickness, and reflected at another thickness, for an indeterminate number of successions. And yet in the superficies of the thinned Body, where it is of any one thickness, there are as many parts for the rays to impinge on, as where it is of any other thickness. Sixthly, If reflexion were caused by the parts of reflecting Bodies, it would be impossible for thin Plates or Bubbles at the same place to reflect the rays of one Colour and transmit those of another, as they do according to the 13th and 15th Observations. For it is not to be imagined that at one place the rays which for instance exhibit a blue Colour, should have the fortune to dash upon the parts, and those which exhibit a red to hit upon the pores of the Body; and then at another place, where the Body is either a little thicker, or a little thinner, that on the contrary the blue should